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Breeding Notes from New Mexico^a

BY FLORENCE MERRIAM BAILEY

OUR Biological Survey work in New Mexico in 1904 took us into the high Rockies during the latter part of the avian breeding season. Between 9500 feet, at the lower edge of the Canadian zone and 12,700 feet at the upper edge of the Hudsonian zone, among the birds that we found feeding young during the last week in July and the first week in August were such species as *Picoides a. dorsalis*, *Empidonax difficilis*, *Zonotrichia leucophrys*, *Junco caniceps*, *Melospiza lincolni*, *Piranga ludoviciana*, *Tachycineta t. lepida*, *Vireo g. swainsoni*, *Dendroica auduboni*, *Anthus pensilvanicus*, *Myadestes townsendi*, *Hylocichla g. auduboni*, and *Merula m. propinqua*. *Pinicola e. montana* was doubtless also of the number as the throat of one shot was stuffed out with small seeds and insects apparently collected for its young.

The glacial amphitheater at the foot of Wheeler Peak was richly populated with the mountain-loving white crowns or striped-heads, as the Indians of the region aptly call them. The willows in the bottom of the amphitheater above the high water level of the lake were full of them and they were common up to timberline. The only nest that we found was in a spruce bush at our 11,400 foot camp, but young were being fed all about us. The sparrows might have been taken for flycatchers by a novice, for they were constantly springing up in the air in pursuit of insects. So eager was their chase that they not only flew into the air but actually ran down into the water after insects. This we discovered one morning on visiting the lake. The white crowns, in company with Lincoln sparrows, were busily flying back and forth from the willows to the edge of the lake, hopping out onto the stones and wading into the water. We were puzzled at first to know what they were about, but on looking closely saw that the bottom of the lake and the stones along the edge were covered with the sandy tubes of caddice fly larvæ from which the flies with their long wings were rapidly emerging. As the caddice flies came out of their cases the birds snapped them up eagerly, flying off with them to their nests. When the hatching process was too slow the sparrows flew up into the air after those that had escaped them.

Other species of birds were equally busy, the violet greens, western flycatchers, Audubon warblers, and solitaires, in flycatching; the three-toed woodpeckers in digging out wood-boring larvæ for their hungry broods. But while the summer resident birds were thus absorbed with their young families, the resident early breeders had not altogether set their young adrift. The handsome black and white nutcrackers (*Nucifraga columbiana*) were flying back and forth hunting for insects on the slopes above timberline, and although March and April seem to cover their normal breeding period, the insistent and comparatively weak voices of immature birds were heard as late as the last of July. One bird of the year which came to camp on July 27 was still under the active guardianship of its parent and was seen fluttering its wings for food, though the hint was ignored.

A young Rocky Mountain jay (*Perisoreus c. capitalis*) was also seen fluttering its wings on July 26. Indeed, when our camp in the spruces was first discovered by a pair of these friendly birds—on July 20—after testing our camp biscuits they flew off, to return promptly with one of their grown brood, readily distinguished

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by its smoky crown. How long the nutcrackers and jays remain in families, and whether the jays look after their young later than the nutcrackers, whose vertical migration to the piñon belt begins in August, perhaps only mountaineers can tell us. But in cases of early accident to a normal spring breed, a second brood could doubtless be reared before cold weather even at such high altitudes.

Some such explanation might apply in the case of a pair of golden eagles (*Aquila chrysaetos*) which we encountered in coming down out of the Taos Mountains through Hondo Canyon in August. The canyon with its timbered sides, its cliffs and bold rock towers afforded good eagle country, and when our outfit halted at 8000 feet by a grove of young spruces that promised to supply a needed tent pole, my attention was attracted by two of the noble birds flying back and forth across the slope of the canyon wall. While holding the horses I noted idly, but with the satisfaction one feels in intelligent work, that the eagles seemed to be hunting over different beats, and also that they saved themselves work by flying back and forth almost without a wing stroke, merely tilting their outspread oblong wings at different angles to act as sails. Occasionally one would light in a small pine top for a few moments, and in descending to the tree one at least showed a white base to its tail.

Sounds of dropping came from the spruces and I thought impatiently of the Helminthophilas we were anxious to hunt in the willows down the canyon, when suddenly the eagles claimed all my attention. One of them was proceeding calmly across a slope when its companion started and flew straight out to it. On the instant the one approached shot away, rising high in air, to come sweeping down again magnificently on set wings. The whole performance had such an appearance of coquettish courtship play that it suggested the booming of the nighthawk. What did it mean—in August? As I was pondering in bewilderment, Mr. Bailey, tent pole in hand, emerged from the spruces, and when I pointed excitedly to the eagles, got out his field glasses to watch developments. In a moment, to our surprise, the two birds lit side by side, on the face of the cliff, as it seemed at our distance. Focusing the glass sharply on them however, Mr. Bailey exclaimed, "They're sitting on the edge of a nest—a big stick nest on a ledge!" This was indeed a surprise. Could they be birds of the year—one had the white tail—revisiting their old home? Or were they, perchance, a pair hunting food for a belated brood, though the normal breeding time is from December to March. What was it? As we speculated, first one bird and then the other pitched off the cliff and resumed sailing. Presently, however, one of them flew to a tall tree, lit on a dead branch, gave a jerk and a backward flap and flew off, the broken branch bristling beneath its feet. It made its way quickly back to the nest which when closely examined with the glass proved to have a top layer of freshly broken sticks. We looked at each other in amazement, finally exclaiming, "Eagles—building—the tenth of August!"

Washington, D. C.